The Blurb

Newsletter of The Phil-Mont Mobile Radio Club

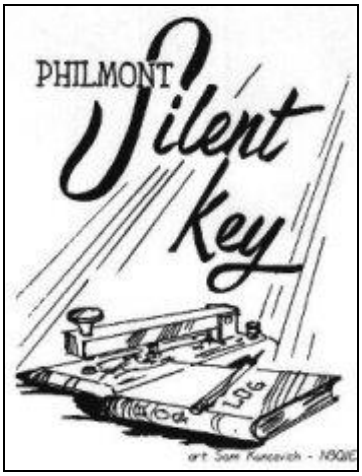
65 Years of Public Service, 1949 to 2014

Volume 65 Number 11 www.phil-mont.org November 2014

The Board meeting is on the 5th
The General Meeting is on the 12th

Note the new location-
Giant supermarket, 315 York Rd, Willow Grove

PLEASE DO NOT TOUCH ANY CONTROLS ON ANY OF THE ELECTRONIC EQUIPMENT IN THE MEETING ROOM.



GEORGE F. WALMSLEY, JR.
W3DO

Went to be with The Lord Thursday, October 2, 2014. He leaves his wife of 63 years, Betty Jane Walmsley and was father to Donald Walmsley, Kenneth Walmsley and Barbara Karpel (deceased). He also leaves 5 grandchildren. A Memorial Service was held on Sunday, October 5th with private burial.
Published on Philly.com on Oct. 7, 2014 - See more at:
http://www.legacy.com/obituaries/philly/obituary.aspx?n=george-f-walmsley&pid=172717676#sthash.1gx5QjUK.IYR0qk6I.dpuf

Board Meeting, Old Timer's Night, Veteran's Day, Thanksgiving Day, End of Daylight Saving, and…

Bob Thomas is back! *See pg 4*

The Blurb is published monthly by and for the members of The PHIL-MONT MOBILE RADIO CLUB, Inc., whose purpose is to promote Amateur Radio in general, and Mobile Radio in particular. ***Copying and quoting*** is permitted with a credit line. We gladly exchange publications with other amateur radio clubs. Requests should be sent to the Editor: *Rick DeVirgiliis ND3B@ARRL.net*

Subscriptions are available to non-members for $12, addressed to the Treasurer.

Labels and mailing: **KB3IV**

Submissions deadline: All copy must be in the hands of the Editor by the 20th of the previous month.

Directors:

WA3KIO(14)
WU3I (14)
KB3SJS(14)
N3QV(15)
W3RM(15)
KB2ERL(A)

Contact Phil-Mont: P.O. Box 284 Springhouse, PA 19477
http://www.phil-mont.org
Website: Eric N3QV & Andrew KC2PMW

For club information: Contact any club officer, or the repeaters listed below. Address or club directory changes and articles for the membership e-mail list should be sent to: KB3IV

Sunday Morning Net Schedules

- **2 Meter/ 70cm Net**..... at 0930L on W3QV repeater
- **10-on-10 Net** ..... at 1000L 28.393 MHz USB (±QRM)
- **75 meter Net** ..... at 1020L 3.993 MHz LSB
- **ARES** at 2100L on the W3QV repeater

Committees

Blurb folding: KB3IV & N3GLU
Directory: KB3IV
Field Day: KC2PMW
Internet: N3QV & KC2PMW
Membership: KB3SJT
Net Control: KB3IV
Program: W3STW
Publicity: W3RM
Refreshments: W3AOK
Repeater: W3AOK
Scholarship: W3RM
Sunshine: N3GLU
VE Program: NS3K
Welcome: N3UBY
Youth: KC2PMW

All visitors are welcome!

The club meets at 7:30 PM on the *second* non-holiday Wednesday each month except July and August at Giant Supermarket, 315 York Rd, Willow Grove, PA
Maps and directions are available at www.phil-mont.org.

License Examinations are held on the fourth **non-holiday Thursday** each month at **Community Ambulance Association, 1414 E. Butler Pike, Ambler PA 19002**
Registration begins at 7:00 P.M. Applicants should contact Jim McCloskey NS3K at 215-275-2979 or jmccloskey@msn.com for the latest information.

Club Stations **W3QV/R: The Jim Spencer Memorial Repeater System**
Ridge & Port Royal Avenues, Philadelphia, PA ***Trustee:*** **W3RM**
147.03 MHz + PL 91.5 Hz 444.80 MHz + PL 186.2 Hz
Reach us on EchoLink through W3QV-R
W3AA *Trustee:* WU3I
W3EM: Field Day/special event station *Trustee:* N3QV

The Officers

President: **W3STW Al Tribble** wstw@juno.com

Treas: **NS3K Jim McCloskey** jmccloskey@msn.com

Secretary: **WA3GM Greg Malone** wa3gm@aol.com

The Prez Sez …

Greetings and I hope these words find you in the best of health and that all bodes well for you. I am most humbled by this opportunity to address you all and I hope my words resonate with the part of your being that springs you into action and puts a positive spin on our collective lives.

The club has had a good year in accomplishing good things. Why I say that is because the agenda I have to lead this organization through the trials and tribulations of continued success has been accomplished during this past administration. My agenda would have been to have a successful election of officers and directors, a successful auction Fest a great field day and a presentation of programs meaningful to all attending. This agenda (my agenda were I president) was accomplished not without some disappointment but, it was done. Did you participate in the election of Club officers and directors; it was great fun watching the election of directors unfold, how about the food Steve, WU3I, prepared for field day did you read his fantastic AuctionFest financial report you say you didn't...well get a copy of it and read it. There was Andrew and his crew and I am re missed for not putting, in print the names of all that made field day a successful Club event. A tremendous boost came from Fred, KA3IRJ, and XYL Penny (of course Fred as president did a lot more...) for their support in getting speakers for the program portion of our mid- month meetings. Many thanks to John, KB3SJS and Keiko, KB3SJT for their work on the Club By-Laws. I may have forgotten to mention all the names to describe what I think would have been a successful year as an officer or director of the Club but I'll not make that miscue twice, and that would be failing to mention you. Thank you dear Club member for your support in helping me to put the PMRC on top of the game.

Respectfully, AL Tribble W3STW

Phil-Mont Birthdays &Tidbytes

November Birthdays

05 Al Tribble - W3STW

12 Arnold Sadwin - KC2HX
14 Bill Nichelson - W3KOC
15 Edythe Victor (XYL WA2DTW)

19 Brad Swanson - N3GLH
Bob Fort,Jr-KB3SFY
22 Bill Popovic - W3AOK

23 Ted Hassell – KB3HAQ
24 Delores Policarpo (XYL N3PP)
27 Mel Toren - N2MT
29 Bob Nicotero - KB2ERL
Lyn Crompton (XYL WA3DSP

MEMBERSHIP STATS
At press time P.M.R.C. has:
88 Full paid members
9 Family members
1 Honorary member
2 Pending members

ARRL VEC

The VE test session is Thursday evening the 20th this month.

As always, many thanks to our VE team!

GENERAL MEETING, WEDNESDAY 10/8/14

THE Meeting was called to order by the President Fred KA3IRJ at 7:30 PM in our new meeting facility at the Giant Super Store located in Willow Grove, PA.

Fred introduced our speaker for the evening Ed Breneiser, WA3WSJ.

Ed gave us a great presentation on working Pedestrian Mobile to include a slide show on his activities. Ed also brought along some of the equipment he uses during his adventures as pedestrian mobile. The presentation was very informative and well received by the members.

Al W3STW & Greg WA3GM informed the assembled that nominations for Club Officers and Directors are now open. Anyone interested in running for either position should contact the Co-Chairmen Al WA3STW or Greg WA3GM with their intentions.

Steve WU3I informed the membership that a one-time Phil-Mont member W3DO, George Walmsley, Jr, had recently become a Silent Key.

The 50/50 was won by Bill K3HWG who then donated his winnings back to the club. We thank Bill for his donation.

The two Fusion Digital Radios were out on loan to Al Ab3ce & Dick W3WXC.

There being no further business the meeting was adjourned.

Respectfully submitted,

Greg Malone WA3GM, Secretary

ANY PORT IN A STORM – PART 1

It was El-Tronics . . . and just in time!

Bob Thomas, W3NE

This is another chapter in the saga of my working years. There was a temporary decline in employment opportunities for new electrical engineers in May of 1950. About a third of my Drexel Electrical Engineering class, including me, had no job prospects when we graduated. It was a time for downward adjustment of career aspirations and salary expectations! Philco, RCA and other large electronics companies had signed-up all the new engineers they needed six months earlier. I had an opportunity to return to Shallcross, manufacturer of precision instruments, where I had worked as a co-op student, but it was a family-owned and operated firm with no prospect whatever for significant advancement by an outsider. A last ditch possibility was to apply for a job at El-Tronics, a small manufacturing operation that grew out of the former Manufacturing Division of the Herbach and Rademan radio store where I had worked part-time while in high school during the war.

H&R had to vacate its original Market Street site to make room for Federal development of the new Independence Mall. The retail store was relocated to 1204 Arch Street in the new "Radio Row" of Philadelphia but the manufacturing division of H&R, which had occupied the second floor at the old Market Street address, did not follow. That enterprise, including equipment and most personnel, was acquired by the Ellis Company, prominent in

the automatic garage door market and still in business at 7456 Limekiln Pike. Mr. Ellis called his new electronics sideline *El-Tronics* (get it???!). He established his newly acquired custom electronics development and manufacturing job shop in a disused factory building at 2647 North Howard Street, just below Lehigh Avenue in Kensington. Jack Wagenseller, W3GS, former SCM for the ARRL EPa Section and Chief Engineer at H&R, headed the new El-Tronics business on Howard Street, where he had the same title.

Concurrently with acquisition of H&R Manufacturing, a lucrative opportunity opened for El-Tronics in addressing the burgeoning market for Geiger-Muller and scintillation radiation detectors. It was the beginning of the craze for wildcat uranium prospecting throughout the West. Casual tourists in western states regularly saw hopeful prospectors, Geiger counter in hand, crawling over barren mountainsides in search of uranium deposits during the U.S. build-up of nuclear armament prior to the Cold War. El-Tronics marketed a full line of prospecting and research instruments for which demand was so high that the mighty Sears Roebuck sold them under their *Tower* brand name. Those high volume products, however, were made at a facility completely independent of the Howard Street operation. That was the situation with the company when I swallowed hard and called Jack Wagenseller to ask for a job

I must have hit Jack at a fortuitous moment; he invited me to visit the El-Tronics facilities and talk employment. The next day I got off the El at the Huntingdon Station and took the pleasant seven block walk to 2647 N. Howard. We chatted for a while then Jack took me around the single-floor facility, introducing various technicians and engineers along the way. Some of the projects in progress were a developmental set-up to measure the velocity of projectiles under a contract from Aberdeen Proving Grounds; Marty Brownstein was designing a low cost triggered-sweep wideband oscilloscope intended to compete with Tektronix; and a pulse counter for a CAA contract was in the breadboard stage. When we were done I felt comfortable with the prospect of working there and accepted Jack's offer for a job at $55 a week.

When I reported for work the following Monday I was assigned to assist another engineer who was designing the pulse counter for the CAA (Civil Aeronautics Authority), predecessor to today's FAA. A new navigation system for radiolocation of aircraft, known as Distance Measuring Equipment (DME) had just been put into service by the CAA and the pulse counter was required for maintenance of ground-based stations. The counter had a range (by fading memory) of 20 Hz to 20 kHz, selectable in three ranges. That would not ordinarily pose a problem for a conventional frequency counter with pulses occurring at a uniform rate. However, the CAA instrument had to count pulses that occurred in pairs of two pulses separated by only 4 microseconds. The task is particularly difficult to accomplish when the rate of *pulse pairs* is very low. For example at 20 pulses per second, spacing between pulse pairs is 100,000 µsec, but the CAA instrument had to recognize *pairs* of pulses not only coming at that low rate but still counting each individual pulse separated from another by only 4 µsec.

It was in vacuum tube days, and processing pulses with those characteristics was at the limit of technology. Nevertheless, the El-Tronics engineer, Conrad somebody, approached the problem by first designing a test generator to produce pulse pairs over the required frequency range. After that he was well on the way to completion of a breadboard

model for the counter that fulfilled performance requirements of the final product. It had been a taxing assignment for high-strung Conrad. He continuously complained about how challenging it was and that he was the only one in the company who fully realized the difficulty of the task. The mounting stress became too much for him and Conrad suddenly resigned after ironically completing most of the hard work, leaving me responsible for completion of the CAA contract.

It took a couple of weeks to iron out the remaining bugs then, with a leap of faith, I made the final product layout for a 7" rack-mounted unit. A common method of construction of rack equipment at that time was for components to be wired by their leads between turret terminals on a circuit board with connections from those terminals by short leads to associated tube sockets, which were mounted separately on a sheet metal chassis.

Sketches for terminal boards, component silk screen identification, chassis and panel, were turned over to our machine shop. Everything was completed in a short time so I was able to stake terminals on the component board; then assemble and wire a prototype model. After the prototype was checked out and working properly on the bench it was time for testing in an environmental chamber over the brutal range of temperature and humidity specified by CAA.

Our contract required the counter to meet performance specifications over an ambient temperature range of -20˚C to +50˚C with 95% relative humidity at the high temperature. Testing had to begin at the low temperature. After -20˚C (-4˚F) was reached the counter was required to "soak" with power off for two hours, then meet all specs within two minutes after application of power. Yippee! It passed. Now for the hard part: With power off, the ambient temperature had to be rapidly increased to +50˚C (122˚F) and relative humidity increased to 95%. Power was required to be turned on again and testing resumed two minutes after reaching +50˚C. Do you have any idea what happens when a cold object is suddenly exposed to hot, humid air? There is water covering everything because the vapor in hot, moist air condenses on all the still-cold surfaces. I had to get special permission from the CAA to open the chamber door to wipe he meter glass clear of dripping water so readings could be made! Even in those hostile conditions the counter performed within spec except on the lowest range, where pulse-rate readings were low.

I eventually traced the cause of the measurement anomaly to a vacuum tube voltmeter circuit that measured the charge on a capacitor that should have been proportional to the number of pulses per second. The VTVM tube was a nine-pin miniature type and moisture was evidently causing leakage between its pins to partially discharge the capacitor between incoming pulse pairs at low duty cycles. Long story short, I changed the tube to an octal type that presented a longer leakage path and that, by the grace of God, cured the problem and enabled the prototype to pass all performance tests.

The next step was for our draftsman to make a formal schematic diagram and convert my sketches to production drawings for fabricated parts. The front panel was to be painted in a gray crackle finish to match a CAA color chip, and engraved for control identification. Pulse count was displayed on a beautiful 4-inch Weston 1% mirror-scale meter. Drawings were sent out with purchase orders to vendors for standard electrical components and to various local shops for fabrication of mechanical parts. The wait for material to come in left time for writing the instruction manual. All the parts arrived in a reasonable time except the terminal boards. After bugging our purchasing agent almost daily for three weeks about the missing boards, he finally confided in me that they were finished and ready to be shipped but the vendor was holding them until overdue bills were paid for previous work. Wow! Bells and sirens went off when I heard that. *EL-Tronics was in perilous financial condition!*

This was not the time to ruminate over the company's financial health; with all parts in hand I got on with building the first production model of

the counter. There was a lot of breath-holding but the final production version of the counter performed as well as the prototype. The CAA was contacted and they sent in an inspector to examine the unit and observe its performance in their rigorous environmental tests. By some marvelous stroke of good fortune the counter sailed through the CAA inspection process and was approved for production.

Assembly of production units was handled by "Bunny" an extremely competent and versatile lady who supervised the all-female assembly workers. They made a talented team capable of high quality electronic assembly on a par with Tektronix. Production test was handled without my intervention by a very knowledgeable technician, leaving me free to go on to a new project. That, and my concern about the future viability of the company that gave me a start when I needed it will be covered in Part-2, next month.

Thank you Bob. It's great to hear these fragments of history from personal experience and your great way of relating them.

Also in November…

3rd National Sandwich Day
4th National Candy Day candy day
9th Holocaust began 1938
14th National Clean Out Your Fridge Day
19th Gettysburg Address Delivered 1863
22nd JFK killed 1963
30th Mark Twain Birthday

Do you have one of these and can't get it to work? Bring it to the November 12th meeting at the Community Room at the Willow Grove Giant. We will have a computer programming station to help you configure your radio. Bring a list of the repeater, simplex frequencies and PL tones you wish to use.
Please arrive about 6:30 so we can complete the task before the meeting begins.

November at Phil-Mont

2nd Sun W3STW NCS
DST ends
4th Election Day
5th BoD mtg
9th Sun WA3GM NCS
11th Veteran's day
12th Member mtg
Old timer's night
16th Sun KB3IV NCS
20th VE session
23 Sun NC3U NCS
27th Thur Thanksgiving
30th Sun N3QV NCS

Don't forget the ARES net on Sunday nights and the Digital net on Tuesday nights.

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First Class Mail

For Sale

1/8" (290#) & 3/16" (380#) Dark Olive Drab Braided Cord · 100% Polyester/Dacron Knit Braided. Nice stuff! Tough and long lasting · UV Resistant and Low Stretch Proudly Made in the U.S.A.! Contact Steve WU3I at wu3i@arrl.net or 215-605-6074

DX Engineering 6BTV (6 band trap vertical) good condition with some radials and right angle connector on base. $100 OBO. Rick, ND3B@arrl.net or 215-908-7225

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